AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method of detecting and quantifying a subsurface ~~defects~~ crack in an article made of high strength ~~non-magnetisable~~ non-magnetisable materials after ~~the use~~ using the article in a high temperature environment, the article exhibiting a crack ~~or gap~~ on a surface, the method comprising the steps of:

(a) brazing the crack ~~or gap is brazed~~; and

(b) ~~after the brazing operation any remaining braze defect or subsurface crack is detected and quantified by means of a multifrequency scanning eddy current system~~ detecting and quantifying by means of a multi-frequency scanning eddy current system any subsurface cracks that remain beneath the brazed crack after the brazing.

2. (Currently Amended) The method according to claim 1, wherein:

[[-]] after the brazing operation, the brazed areas are inspected on a grid of points by an eddy current probe connected to a frequency scanning eddy current system[[,]];

[[-]] the signal obtained from the system at each inspected point is analysed by means of an algorithm which fits the ~~said~~ signal with a calculated signal obtained from a simple model of the interaction between the probe and a multiple layer

material, each layer of which is plane, homogeneous, and ~~characterised~~ characterized by a value of electrical conductivity and positions of the interface with the adjacent layers, wherein the effect on the signal due to presence of a ~~braze defect or~~ subsurface crack is approximated by a reduction of the electrical conductivity in a layer corresponding to the position of the ~~braze defect or~~ subsurface crack in the thickness of the material[[,]];

[[-]] from the ~~said~~ algorithm estimates are obtained of the conductivity values and the positions of the interfaces of each of the layers of the model[[,]];

[[-]] the presence of ~~braze defect or~~ the subsurface crack is detected by comparing the estimated conductivity values obtained from the ~~said~~ algorithm with reference values obtained in the same way on a defect-free component[[,]];

[[-]] the ligament and the depth of the ~~braze defect or~~ subsurface crack are determined from the estimated positions of the interfaces between the model layers.

3. (Currently Amended) The method according to claim 1, wherein the method is applied to blades or vanes of gas turbines made from a ~~Nickel~~ nickel base superalloy as the article.

4. (Currently Amended) The method according to claim 1, wherein the distance of the ~~braze defect or~~ subsurface crack from a surface and the depth of the ~~defect~~ subsurface crack is determined.

5. (Currently Amended) The method according to claim 4, wherein (i) local variations of the thickness of the article in the range of penetration of the eddy

currents, (ii) or the presence or fins or ribs on the inner surface of the article, or (iii) the presence of an inner layer of air between two airfoils, is suppressed as an interfering quantity in the measurement by including in the model one or more layers describing the ~~said~~ geometric features of the article.

6. (Currently Amended) The method according to claim 1, wherein dependent on the measured extent of the ~~remaining braze defect or~~ subsurface crack after brazing, a decision is made concerning the fulfillment of the serviceability of the quality requirements of the braze.

7. (Currently Amended) The method according to claim 1, wherein dependent on the extent of the remaining subsurface crack after brazing, estimated by the method, a decision is made concerning further usability of the article.

8. (Currently Amended) The method according to claim 1, wherein the surface of the crack ~~or gap~~ is cleaned from oxides before applying the method.

9. (Previously Presented) The method according to claim 1, wherein a Flouride-Ion-Cleaning-Method is used for cleaning the surface before applying the process.

10. (New) The method according to claim 1, wherein the surface is flat.

11. (New) The method according to claim 1, wherein the surface is curved.

12. (New) The method according to claim 1, wherein the surface is an external surface of the article.

13. (New) The method according to claim 1, wherein the surface defines a cavity of the article.

14. (New) A method of detecting and quantifying a subsurface crack in a blade or vane of a gas turbine made of high strength non-magnetisable materials after using the blade or vane in a high temperature environment, the blade or vane having a crack on a surface, the method comprising:

brazing the crack; and

detecting and quantifying using a multi-frequency scanning eddy current system any subsurface cracks that remain beneath the brazed crack after the brazing.

15. (New) The method according to claim 14, wherein the surface of the crack is cleaned from oxides before applying the method.

16. (New) The method according to claim 14, wherein the distance of the subsurface crack from a surface and the depth of the subsurface crack is determined.

17. (New) The method according to claim 14, wherein the surface is flat.

18. (New) The method according to claim 14, wherein the surface is curved.

19. (New) The method according to claim 14, wherein the surface is an external surface of the blade or vane.

20. (New) The method according to claim 14, wherein the surface defines a cavity of the blade or vane.